

Claim 1 has been amended to recite that the (B)/(A) ratio ranges from 90/10 to greater than 60/40. Support for this amendment can be found in the instant specification at, for example, page 12, lines 11-13, which recites a (B)/(A) ratio in the range of from 90/10 to 70/30, thus providing support for a (B)/(A) ratio of greater than 60/40.

New claim 11 is an independent claim directed to a thermoplastic polyester composition similar to that set forth in claim 1 except that, in the claim 11 composition, the core-shell polymer contains the specific core and shell materials recited in the new claim and the (B)/(A) ratio is between 90/10 and a value greater than 40/60 for proportions of impact modifier between 2 and 18% in 98 to 82% of polyester, respectively. Support for the recitation of the specific core and shell materials is found in the specification at, for example, pages 7-8. Support for the (B)/(A) ratio recited in claim 11 is based on the fact that the recited range is within the scope of the range recited in claim 1.

New claim 12 has been added to limit the composition of claim 11 to one consisting of the thermoplastic polyester and the impact modifier. New claim 13 limits the composition of claim 11 to one wherein the impact modifier consists of the core-shell polymer (A) and the ethylene copolymer (B).

In the Office Action, claims 1-4, 6 and 8 are rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over EP 0573680 ("EP '680"). In addition, claims 1-4, 6 and 8 are rejected under 35 U.S.C.

§102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over EP 0491985 ("EP '985"). Furthermore, claims 1-4, 6 and 8 are rejected under 35 U.S.C. §112, second paragraph, and provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5, 7 and 9 of copending Application No. 09/718,427.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejections set forth in the Office Action.

**I. Rejection Under 35 U.S.C. §102(b)/§103 Based on EP '680**

Claims 1-4, 6 and 8 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over EP '680.

EP '680 is cited for teaching a polyester impact modified with a blend of ABS and an ethylene/glycidyl methacrylate copolymer. The Office Action states that use of an ABS core/shell copolymer would have been obvious over EP '680.

Applicants respectfully submit that EP '680 does not anticipate or render obvious instant claims 1-4, 6 and 8.

The (B)/(A) ratio in Applicants' claimed thermoplastic polyester composition ranges from 90/10 to greater than 60/40 (i.e., 9/1 to greater than 1.5/1). In EP '680, the (B)/(A) ratio ranges from 1:10 to 1.5:1, more preferably from 1:8 to 1:1 (page 1, lines 38-39). Thus, the (B)/(A) ratio used in Applicants' claimed composition is completely outside the (B)/(A) ratio taught in EP '680.

EP '680 does not teach or suggest a (B)/(A) ratio of from 90/10 to greater than 60/40. Therefore, for at least this reason, Applicants submit that EP '680 does not anticipate or render obvious instant claims 1-4, 6 and 8.

**II. Rejection Under 35 U.S.C. §102(b)/§103 Based on EP '985**

Claims 1-4, 6 and 8 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over EP '985. The reference is cited for disclosing polybutylene terephthalate impact modified with a blend of ABS and an ethylene/glycidyl methacrylate copolymer. According to the Office Action, use of an ABS core/shell copolymer is anticipated by or would have been obvious over EP '985.

Applicants respectfully submit that claims 1-4, 6 and 8 are not anticipated or rendered obvious by EP '985.

As noted above, the (B)/(A) ratio in Applicants' claimed thermoplastic polyester composition ranges from 90/10 to greater than 60/40 (i.e., 9/1 to greater than 1.5/1). In EP '985, the (B)/(A) ratio ranges from 1:10 to 1.5:1, more preferably from 1:4 to 1:1 (page 1, lines 37-38). Thus, the (B)/(A) ratio used in Applicants' claimed composition is completely outside the (B)/(A) ratio taught in EP '985.

EP '985 does not teach or suggest a (B)/(A) ratio of from 90/10 to greater than 60/40. Therefore, for at least this reason, Applicants submit that claims 1-4, 6 and 8 are not anticipated or rendered obvious by EP '680.

### **III. Rejection Under 35 U.S.C. §112**

Claims 1-4, 6 and 8 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. According to the Office Action, it is not clear which (B)/(A) ratio applies when the amount of impact modifier is between 18 and 40%. In addition, the term “advantageously” is said to be indefinite.

Claim 1 has been amended hereto recite a (B)/(A) ratio of 90/10 to greater than 60/40 at a concentration of impact modifier of from 2 to 40%. The language “the (B)/(A) ratio being between 25/75 and 10/90 for proportions of impact modifier between 18 and 40% in 82 to 60% of polyester, respectively” and the language “advantageously between 5 and 40% in 95 to 60% of polyester” have been deleted from claim 1.

Applicants respectfully submit that amended claim 1 not indefinite.

### **IV. Double Patenting Rejection**

Claims 1-4, 6 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5, 7, and 9 of copending patent application no. 09/718,427 (“the ‘427 application”). The Office Action states that, although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application overlap with the claims of the ‘427 application.

Applicants respectfully submit that amended claim 1 herein does not overlap with the claims of the '427 application. In instant claim 1, as amended herein, the (B)/(A) ratio is between 90/10 and greater than 60/40 for proportions of impact modifier between 2 and 40% in 98 to 60% of polyester. In the claims of the '427 application, for proportions of impact modifier between 2 and 18% in 98 to 82% of polyester, the (B)/(A) ratio is between 40/60 and 25/75. Thus, at similar proportions of impact modifier and polyester, the (B)/(A) ratio of instant claim 1 does not overlap with the (B)/(A) ratio recited in the claims of the '427 application.

Applicants further submit that new independent claim 11 herein also does not overlap with the claims of the '427 application. In claim 11, the (B)/(A) ratio ranges from 90/10 to a value greater than 40/60 for proportions of impact modifier between 2 and 18% in 98 to 82% of polyester. In the claims of the '427 applications, as pointed out above, the (B)/(A) ratio at the same proportions of impact modifier and polyester ranges from 40/60 to 25/75. Thus, the (B)/(A) ratio recited in instant claim 11 does not overlap with the (B)/(A) ratio recited in the claims of the '427 application.

Therefore, for at least the foregoing reasons, Applicants submit that the claims of the instant application do not conflict with the claims of the '427 application.

#### **V. Patentability of New Claims 11-13 over EP '680 and EP '985**

Applicants respectfully submit that new claims 11-13 also are not anticipated by and would not have been obvious over EP '680 or EP '985.

In the composition set forth in claims 11-13, the core-shell copolymer (A) is limited to the core and shell components listed in claim 11. Thus, the claims do not include an ABS core-shell copolymer as the core-shell copolymer (A) used in the claimed composition.

EP '680 requires the presence of an ABS copolymer in the composition therein.

At page 1, lines 18-20, EP '680 teaches that:

Surprisingly, it has now been found that a group of specific terpolymers in combination with the ABS polymers show a completely unexpected synergistic effect so that with these combinations good impact values at room temperature can easily be attained at relative low concentrations.

EP '680 does not teach or suggest that a synergistic effect will occur with a core-shell copolymer other than the ABS copolymer. Thus, this reference provides no reason, suggestion or motivation to one skilled in the art to use a different core-shell copolymer.

Therefore, for at least this reason, Applicants submit that claims 11-13 are not anticipated by and would not have been obvious over EP '680.

EP '985 requires the presence of an acrylonitrile-butadiene copolymer in the composition therein. At page 1, lines 17-21, the reference teaches that:

Surprisingly, it has now been found that a group of specific terpolymers has somewhat better impact modifying properties than the acrylonitrile-butadiene copolymers and terpolymers, and more particularly that combinations of these specific terpolymers with the acrylonitrile-butadiene copolymers and terpolymers show a completely unexpected synergistic action so that with

these combinations CNI values at room temperature of 25 J/m<sup>2</sup> and above can easily be attained.

EP '985 does not teach or suggest that a synergistic effect will occur with a core-shell copolymer other than acrylonitrile-butadiene copolymers. Thus, this reference provides no reason, suggestion or motivation to one skilled in the art to use a different core-shell copolymer.

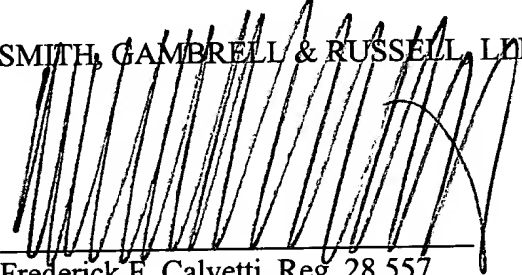
Therefore, for at least this reason, Applicants submit that claims 11-13 are not anticipated by and would not have been obvious over EP '985.

#### **VI. Conclusion**

In view of the amendments and remarks made herein, Applicants respectfully request that the rejections of claims 1-4, 6 and 8 be withdrawn and that these claims, along with new claims 11-13, be allowed.

Respectfully submitted,

SMITH, GAMBRELL & RUSSELL, LLP



Frederick F. Calvetti, Reg. 28,557  
1850 M Street, NW – Suite 800  
Washington, DC 20036  
Telephone : 202/263-4300  
Facsimile : 202/263-4329

Date : August 9, 2002

182402w

**MARKED-UP VERSION OF AMENDED CLAIM**

1. (Twice Amended) Thermoplastic polyester compositions not comprising polycarbonate, which comprise, by weight:

(i) a thermoplastic polyester;

(ii) an impact modifier comprising:

(a) a core-shell copolymer (A);

(b) an ethylene copolymer (B) selected from ethylene-unsaturated carboxylic acid anhydride copolymers (B1), ethylene-unsaturated epoxide copolymers (B2) and blends thereof; and

(iii) the (B)/(A) ratio being between 90/10 and [25/75] greater than 60/40 for proportions of impact modifier between 2 and 40% in 98 to 60% of polyester, respectively[, and advantageously between 5 and 40% in 95 to 60% of polyester, respectively;

(iv) the (B)/(A) ratio being between 25/75 and 10/90 for proportions of impact modifier between 18 and 40% in 82 to 60% of polyester, respectively].



**CLEAN VERSION OF AMENDED CLAIM**

1. (Twice Amended) Thermoplastic polyester compositions not comprising polycarbonate, which comprise, by weight:

(i) a thermoplastic polyester;

(ii) an impact modifier comprising:

(a) a core-shell copolymer (A);

(b) an ethylene copolymer (B) selected from ethylene-

unsaturated carboxylic acid anhydride copolymers (B1), ethylene-

unsaturated epoxide copolymers (B2) and blends thereof; and

(iii) the (B)/(A) ratio being between 90/10 and greater than 60/40 for proportions of impact modifier between 2 and 40% in 98 to 60% of polyester, respectively.

B1 SUB  
C17

NEW CLAIMS

--11. A thermoplastic polyester composition comprising, by weight:

(i) a thermoplastic polyester;

(ii) an impact modifier comprising:

(a) a core-shell copolymer (A); wherein the core consists of one or more polymers selected from the group consisting of isoprene homopolymers, butadiene homopolymers, copolymers of isoprene with at most 30 mol% of a vinyl monomer, copolymers of butadiene with at most 30 mol% of a vinyl monomer, alkyl (meth)acrylate homopolymers, and copolymers of alkyl (meth)acrylate with at most 30 mol% of a vinyl monomer, the vinyl monomer in the core being selected from the group consisting of a styrene, an alkylstyrene and an alkyl (meth)acrylate; further wherein the shell consists of one or more polymers selected from the group consisting of styrene homopolymers, alkylstyrene homopolymers, methyl methacrylate homopolymers, and copolymers consisting of at least 70 mol% of a styrene, alkyl styrene or methyl methacrylate with at most 30 mol% of a vinyl acetate;

(b) an ethylene copolymer (B) chosen from ethylene-unsaturated carboxylic acid anhydride copolymers (B1), ethylene-unsaturated epoxide copolymers (B2) and blends thereof;

B2

SUB  
C7

wherein the (B)/(A) ratio is between 90/10 and a value greater than 40/60 for proportions of impact modifier between 2 and 18% in 98 to 82% of polyester, respectively.--

B2

--12. A composition according to claim 11, wherein the composition consists of the thermoplastic polyester and the impact modifier.--

SUB  
C17

--13. A composition according to claim 11, wherein the impact modifier consists of the core-shell polymer (A) and the ethylene copolymer (B).--